

In re Patent Application of:
PHILLIPS ET AL
Serial No. 10/706,142
Filed: 11/12/2003

REMARKS

Claims 1 to 7 are currently pending.

By the foregoing amendments, the specification has been amended to describe what is shown in the drawings as originally filed. Also, a declaration under 37 C.F.R. § 1.132 has been submitted. In addition, pages 1 and 2 of an Exhibit A, containing samples representative of the prior art and the claimed invention have been submitted. Reconsideration of this application in light of the foregoing amendments to the specification, declaration under Rule 132, enclosed samples and the following remarks, is respectfully requested.

Claim 2 has been rejected under 35 U.S.C. 112 first paragraph, as failing to comply with the written description requirement. It has been alleged that the claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In the previous amendment of the claims, claim 2 was amended to recite that the depth of the interference pattern is substantially less than a thickness of the light transmissive substrate - a feature of the invention shown in the drawings as originally filed.

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The specification has been amended on page 9, at line 14, to conform with this illustrated feature and to provide antecedent basis for the text of claim 2. Withdrawal of the rejection of claim 2, under 35 U.S.C. § 112, is, accordingly, earnestly solicited.

The rejection of claims 1, 2, and 5-7 under 35 U.S.C. § 103 (a), as being unpatentable over Uyama et al, in view of the admitted prior art at pages 2-3 of the instant specification, is respectfully traversed for reasons of record, as well as the following comments.

The Final rejection asserts that:

"Applicant has amended claim 1 to recite that the color shifting provides an observable discrete color shift. Uyama et al also teaches this."

The rejection further alleges:

"Note also that claim 1 only requires that the security article have the holographic image on one side. Uyama et al teaches that if possible, the base member 2 and hologram forming layer 4 would be formed as a single layer, and hence the hologram would be provided on the substrate without the need for an additional layer."

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How these comments relate to the rejected claims is not understood.

Claim 1 reads as follows:

"A method of forming a security article, comprising the steps of:
providing a light transmissive substrate having a first surface and an opposing second surface, the first surface having an optical interference pattern; and
forming a color shifting optical coating on the second surface of the substrate, the second surface being substantially planar,
wherein the color shifting coating provides an observable discrete color shift such that the article has a first background color at a first angle of incident light or viewing and a second background color different from the first background color at a second angle of incident light or viewing, the article exhibiting an optical diffraction grating pattern effect or a holographic image pattern effect in addition to the first and second background colors."

Claim 1 above clearly recites a method of forming two structures on opposite sides of a light transmissive substrate -
1) a hologram or grating on one side; and 2) a color shifting structure on a second or other side.

Uyama et al do not suggest placing these two optical structures on opposite sides of a light transmissive substrate.

Disposing these structures in the manner claimed has a profound, unexpected, synergistic visual effect. A highly color shifting device is provided wherein the hologram appears to float in space.

The Final rejection further states that:

"As already noted and admitted by applicant in the instant specification, embossing is a conventional way of forming holograms..."

"Also the instant color shifting coatings made of flakes in a polymeric medium was submitted to be well known..."

"In this regard, the admitted prior art at pages 2-3 of the instant specification has also been applied to back up the "well known" statements."

Applicants respectfully point out that the claimed invention does not merely define conventional ways of making holograms by embossing. Nor do the rejected claims solely claim a color shifting coating.

Claim 1, in its entirety, recites a novel method of forming a security article, wherein forming two particular structures on opposite sides of a light transmissive substrate - 1) a hologram

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or grating on one side, and 2) a color shifting structure on a second side, as noted above. Disposing these structures on opposite sides of a light transmissive structure substantially decouples their optical effects, and patentably distinguishes the claimed invention from the prior art.

As evidence that this claimed structure is not suggested by the cited prior art, a declaration under 37 C.F.C. § 1.132 has been submitted. As pointed out above and as attested to by the declarant, the claimed invention is not taught by the cited prior art.

Claims 2, 5, and 7 import their patentability from the patentability claim 1 and add further patentable features.

In particular, claim 2 recites that the substrate has a thickness that is substantially greater than the depth of the embossing. The thick substrate relative to the embossing yielding a large region, in combination with forming the two structures on opposite sides of this large gap, or substrate, provides the advantages of this invention pointed out in the attached declaration under 37 C.F.R. § 1.132.

The rejection of claims 3 and 4 under 35 U.S.C. § 103(a) as being unpatentable over Uyama et al in view of Coombs et al is respectfully traversed.

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The Office Action states that Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

It is stated that the rejection remains essentially the same as the previous rejection, and that, other than attorney arguments, there is nothing of record to indicate that the instant article is significantly improved over that of the Uyama et al.

As noted above, Applicants have submitted samples of structures made with a hologram and color shift coating on the same side of a light transmissive substrate, and samples of structures made in accordance with the invention defined in claim 1, wherein the structures are made with the color shift coating and hologram on opposite sides of a light transmissive substrate. Differences between these structures are significant, as attested to in the declaration under Rule 132.

With regard to the rejection of claim 3 in view of Uyama et al and Coombs, Uyama et al disclose a transparent hologram seal that can be applied as a security article. Uyama et al appears to place the hologram and color shifting layer on the same side of a light transmissive substrate. The color shifting layer is an evaporation coating layer comprised of alternatively arranged high and low refractive index layers, such that it changes color as light either transmits or reflects through the layer when the viewing angle is changed. The multilayer evaporation layer serves as the color shifting multilayer optical coating. It

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should be further noted that, in Uyama et al's article, the absence of a reflector layer as defined in claim 3 of the instant claims makes his device inferior to one having a reflector layer yielding high chroma. For Uyama et al to have high chroma his device is best placed on a black background. This requirement is obviated by the inclusion of a reflective layer, as claimed.

Neither Uyama et al or Coombs suggest having a hologram and color shifting coating on opposite sides of the substrate. Since claim 3 is dependent on claim 1, it imports this limitation which distinguishes from the prior art. Furthermore, having the reflector layer spaced at least the thickness of the light transmissive substrate from the hologram provides an appearance of the hologram floating upon its background. Combining Uyama et al and Coombs would not yield such a structure.

In view of the foregoing, it is respectfully submitted that all of the claims are now in condition for allowance.

Reconsideration of this application is respectfully requested

Applicants also request confirmation of consideration of the IDS previously faxed to the U.S. Patent and Trademark Office on April 28, 2006.

Also, please note that a petition for a two-month extension of time is being filed herewith under separate cover.

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Should any minor informalities need to be addressed, the Examiner is encouraged to contact the undersigned attorney at the telephone number listed below.

Please charge any shortage in fees due in connection with the filing of this paper, including Extension of Time fees, to Deposit Account No. 50-1465 and please credit any excess fees to such deposit account.

Respectfully submitted,



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Done